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INTERNATIONAL MEDICAL CONGRESS.

1876.

PHILADELPHIA, SEPTEMBER 4—9.

OUTLINES

OF

PAPERS PRESENTED BY THE REPORTERS ON QUESTIONS ASSIGNED FOR DISCUSSION IN THE SECTIONS.

PHILADELPHIA:
COLLINS, PRINTER, 705 JAYNE STREET.
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PAPERS PRESENTED BY THE REPORTERS ON QUESTIONS ASSIGNED FOR DISCUSSION IN THE SECTIONS.

SECTION I. MEDICINE.

FIRST QUESTION.—Typho-Malarial Fever; Is it a Special Type of Fever? Reporter, J. J. Woodward, M.D., Assistant Surgeon U. S. Army.

Preliminary remarks on the mortality of armies from disease, with comments on the comparison recently drawn by Professor Virchow between the mortality of the United States armies during the late civil war and that of the German armies during the war with France.

Fatality of camp fevers during the American civil war. General belief among medical officers early in the war that these fevers represented a "new type of disease." History of the introduction of the term typho-malarial fever. The proposition submitted that whenever great armies campaign in malarial regions the prevalent fevers are hybrids, between malarial fevers and some form of typhus. Historical illustrations from (*a*) the siege of Naples, 1528; (*b*) the Hungarian campaigns, from 1526 to 1788; (*c*) the morbus mucosus of Roederer and Wagler; (*d*) the Walchern expedition of 1809; (*e*) Virchow's comments on the fevers of the German army in France.

Remarks on the distribution of malarial fevers and of typhoid fever in the United States, and on their relation to season of year. Substitution of malarial fevers in particular regions, or at particular times, by typhoid. Early recognition of hybrid forms by Drake. Recognition of similar hybrids by European authors as well as by Americans.

The typho-malarial fever of the civil war. This term never meant to represent a specific type of fever, but intended to designate all the many-faced brood of hybrid forms resulting from the combined influence of the causes of malarial fevers and of enteric fever. Sketch of symptoms and pathological anatomy. Two great groups of cases; those in which the malarial element predominates, and those in which the typhoid element predominates. The scorbutic taint as a complication of either group during the civil war.

Adoption of the author's views since the close of the war by systematic writers.

SECOND QUESTION.—Are Diphtheritic and Pseudo-Membranous Croup Identical or Distinct Affections? Reporter, J. Lewis Smith, M.D., Physician to the New York Infants' Hospital.

I. Croup a local malady; diphtheritic laryngitis the expression or manifestation of a general malady.

II. Anatomical characters; identical in kind as regards the state of the larynx, but differing in degree or intensity.

III. Clinical facts, which indicate their duality.

THIRD QUESTION.—Do the Conditions of Modern Life favor specially the Development of Nervous Diseases? Reporter, Roberts Bartholow, M.D., Professor of the Theory and Practice of Medicine in the Medical College of Ohio.

Numerous references in the writings of the ancients to mental and nervous maladies. The influence in ancient times of those conditions supposed to be most active in our day in the production of nervous maladies, viz., social excitements, political revolutions, sexual excesses, indulgence in wine.

The recognition of nervous maladies in the sixteenth century.

If in modern times an increase in nervous maladies had occurred, the result must be exhibited to a limited extent in an increased sickness and mortality rate. With the improvement in the general well-being wrought by our modern civilization, a manifest increase in longevity has occurred. With an improved hygiene, the sickness rates and the mortality from epidemics have diminished.

The supposed increase in the number of nervous diseases is more apparent than real.

The art of printing has greatly increased the diffusion of knowledge amongst men, and hence every medical fact has not only a more prominent record, but is more generally known.

In modern times, within this century especially, nervous diseases have been more accurately studied and better differentiated.

The growth of a higher humanitarian sentiment has led to a more abundant provision for the insane.

FOURTH QUESTION.—The Influence of High Altitudes on the Progress of Phthisis. Reporter, Charles Denison, M.D., of Denver, Colorado.

I. The past history of the climatic treatment of phthisis.

(*a*) The climates of high altitudes will be considered by their important attributes, which will be contrasted with the same qualities in less elevated health resorts; in America the elevated inland plains and "backbone" of the continent, between elevations of four and ten thousand feet, being matched with sea-side and inland resorts, below the elevation of two thousand feet.

II. *a. Temperature.*—Too much importance has been placed upon *equable temperature*, equability often entailing excessive moisture and other conditions comparatively unfavorable to the majority of consumptives. Cool dry climates are better than warm moist ones.

b. Relative Humidity.—The injustice of the advocates of low climates in not considering this point noted. Is the comparison of high and low altitudes by the relative humidity of each, temperature being accounted for, fair? How does altitude affect humidity both absolute and relative? Cause of low relative humidity on the eastern Rocky Mountain slope.

c. Diathermacy of the Air.—A rule, depending upon elevation, given. The conditions for the greatest benefit from the direct influence of the sun grow more favorable with increasing elevation.

d. Electric tension, Ozone, etc.—Their increase in high altitudes, peculiar effects, and great utility. How can we best utilize atmospheric electricity? Relation of this topic to temperature and humidity.

e. Altitude.—The subject analyzed. The utility of the changed mechanical conditions of respiration. Influence of lessened atmospheric pressure upon the circulation and animal economy.

III. To what extent does phthisis originate above the elevation of 5000 feet? Instances analyzed. Favorable conditions for preventing phthisis and lengthening the years of the naturally short lived.

IV. In the treatment of phthisis the utility of high altitudes rests with the *adaptability* of climate to the needs of special forms and complications of the disease. Comparison of experience elsewhere. Injurious effects of great elevations, precautions, etc.

V. Relation of typical cases, with analysis; inferences and conclusions.

VI. When and how to go to the Rocky Mountain slope; kind of life to lead; advantages in winter and summer compared. A partial recovery necessitates a permanent residence. The remedy of high altitude too long delayed in the majority of instances. Duty of physicians in this regard.

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SECTION II. BIOLOGY.

FIRST QUESTION.—Microscopy of the Blood. Reporter, Christopher Johnston, M.D., Professor of Surgery in the University of Maryland.

I. Introduction.—The original source of blood in vertebrates.

II. Elements of blood in vertebrates.

III. The normal elements having *form* exclusively considered, as regarded from two points of view: *a*, that of anatomy and physiology; and *b*, that of medical jurisprudence.

IV. Genesis of corpuscles.

V. Form of colored corpuscles; and *b*, their structure.

VI. Leucocytes.

VII. Size of colored corpuscles.

VIII. Their enumeration.

IX. The colored blood corpuscles in medical jurisprudence.

SECOND QUESTION.—The Excretory Function of the Liver. Reporter, Austin Flint, Jr., M.D., Professor of Physiology in the Bellevue Hospital Medical College, New York.

Is the liver, as far as the production of bile is concerned, an organ for secretion, for excretion, or has the bile functions both as a secretion and an excretion? The bile contains one substance, cholesterine, which is evidently separated from the blood by the liver and is not formed in the substance of the liver itself. The blood which goes to the liver contains more cholesterine than the blood which has circulated through this organ. It is evident that cholesterine is produced in certain of the tissues, particularly in the brain and nervous system. The blood gains cholesterine in its passage through the brain. In old cases of hemiplegia, there is no cholesterine in blood taken from the arm of the paralyzed side, while it exists in the blood from the sound side. In certain cases of structural disease of the liver, cholesterine accumulates in the blood and produces peculiar toxic effects. The same effects follow the injection of cholesterine into the blood of living animals. Cholesterine is an excrementitious substance; it bears the same relation to the liver that urea bears to the kidneys; it is discharged in the bile into the small intestine, is transformed during digestion into another substance (stercorine) and as stercorine exists in the fæces. In addition to the excrementitious function of the bile, this fluid has another function, which latter is connected with digestion and is essential to life.

THIRD QUESTION.—Pathological Histology of Cancer. Reporter, J. W. S. Arnold, M.D., Professor of Physiology in the University of the City of New York.

FOURTH QUESTION.—The Mechanism of Joints. Reporter, Harrison Allen, M.D., Professor of Comparative Anatomy in the University of Pennsylvania.

(I.) Starting with the idea that joints are of dynamic and static values, it will be shown that in most movable joints the ball and socket arrangement predominates. When the ball is supported by the socket, as at the occipito-atloid articulation, *rest* is suggested. But when the ball is suspended from the socket, as at the temporo-maxillary articulation, *motion* is suggested. Attempts will be made to illustrate the etiology of fracture and dislocation by reference to this method of study.

(II.) It will be premised that articular surfaces are of three kinds: *axial, actinic,* and *lateral.* The *axial* or primary surfaces are those situated upon proximal and distal ends of a bone in the line of its longitudinal axis. The *actinic* or secondary (rarely seen) are those placed in a line which is deflected from the longitudinal axis. The *lateral* or tertiary are those situated upon the sides of the shaft or body of a bone and serve for articulation with corresponding surfaces of other bones.

E. g. The outer femoral condyle is axial, since it is placed in the line of the longitudinal axis of the femur. The internal femoral condyle is *actinic,* since its line intersects the long axis of the femur, from which it may be said to be deflected. The *lateral* facets of the metatarsal or tarsal bones serve to illustrate the lateral kind.

(III.) Axial surfaces, it is believed, are static; actinic surfaces are dynamic; while lateral surfaces have subordinate degrees of value—some of them being adventitious. The outer femoral condyle is active in extension = static; the inner femoral condyle is active in flexion = dynamic; but the lateral facets have no independent action.

(IV.) Joints are fixed or locked at extremes of flexion and extension, and are most relaxed at the intervals between these extremes. An application of these premises will be made to the etiology of dislocation.

(V.) It will be assumed that when a facet is actively employed it enters into a combination with which the entire limb is in harmony. Hence in the study of any one facet its relations to all others of its kind, as well as to the bones, muscles, and fasciæ of its limb, become essentials.

(VI.) It will be shown in conclusion that a correct knowledge of the symptomatology and treatment of diseases of the joints is dependent upon a true conception of the complex nature of articular surfaces.

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SECTION III. SURGERY.

FIRST QUESTION.—Antiseptic Surgery. Reporter, John T. Hodgen, M.D., Professor of Surgical Anatomy and of Clinical Surgery in the St. Louis Medical College.

I. Putrefaction may and does occur in the solids and liquids of the body both with and without the direct contact of germs borne in the air or water.

II. Putrefaction of the solids and liquids of an open wound may in many cases be prevented if the contact of living germs with the surface is not permitted, or by destroying their vitality after contact with it.

III. It is possible that the living solids and liquids of the body may be so altered that they shall not furnish the conditions necessary to putrefaction.

IV. Practically the conditions to be met in preventing putrefaction are so difficult that in many cases it is impossible to comply with them. Yet, even partial success is eminently worthy of our best efforts.

SECOND QUESTION.—Medical and Surgical Treatment of Aneurism. Reporter, William H Van Buren, M.D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Bellevue Hospital Medical College, New York.

After a glance at the causes of aneurism and the sources of information at the command of the reporter, he will rapidly enumerate the several modes of treatment at present in use, and endeavour to estimate the remedial value and especial applicability of each, aiming to furnish an answer to the following question:—

In a given case of aneurism what method or methods, in the present state of our knowledge, promise the most safe and most certain cure?

Incidentally the following mooted questions will be touched upon, viz.: (*a*) why the blood coagulates so much more promptly in some cases of aneurism than in others where conditions are apparently alike; (*b*) the value of antiseptic treatment in securing quick union of the wound after applying a carbolized catgut ligature for the cure of aneurism after the Hunterian method; (*c*) the propriety of employing the carbolized catgut ligature upon a large artery; (*d*) the value of the "constricting" ligature of silver wire; (*e*) the comparative value of rapid and slow pressure; (*f*) the value of galvano-puncture—of coagulating injections, etc. etc.

THIRD QUESTION.—Treatment of Coxalgia. Reporter, Lewis A. Sayre, M.D., Professor of Orthopædic Surgery and of Clinical Surgery in the Bellevue Hospital Medical College, New York.

1*st*. Describe Coxalgia, and divide the disease into three different stages, giving the symptoms in each stage, so that they can be accurately diagnosticated.

2*d*. The pathological changes in the joint in the three different stages of the disease.

3*d*. The etiology or causation of the disease—
  (*a*) That the disease may occur in *any* person from a sufficient exciting cause, and that it is not of necessity of scrofulous origin.
  (*b*) That, instead of being a constitutional disease, arising without any exciting cause except the general taint of the system, proof will be offered that it is *traumatic* in its origin almost always if not always.

4*th*. The treatment in the different stages—
  (*a*) Proper treatment in the majority of cases will result in recovery with good or perfect motion and without deformity.
  (*b*) If proper treatment has been neglected until the bone has become carious, *exsection* is *justifiable* and far preferable to the slow exfoliations of nature, giving much better results as to the usefulness of the limb, and infinitely better as to deformity of the body and *motion* of the joint.

FOURTH QUESTION.—The Causes and Geographical Distribution of Calculous Diseases. Reporter, Claudius H. Mastin, M.D., of Mobile, Alabama.

In treating this subject, a brief notice will be made of the varieties and constituents of calculous concretions, tracing the formation and *probable* causes of gravel in the kidney, and afterwards of stone in the bladder:—

(*a*) I shall consider hereditary influences governing diathesis, with the effect of habit and mode of life upon the formation of these deposits.

(*b*) Reference will be made to climate, food, water, and the default of exercise, as bearing upon healthy digestion and assimilation.

(*c*) The influence of age, sex, race, and occupation will be considered, and notice taken of moral and physical emotions; also the mechanical and traumatic causes of these affections.

(*d*) The agency of the colloids in the formation of calculi will be examined.

(*e*) A review of the manner of formation of gravel in the kidney, its passage through the ureter, and lodgment in the bladder; and an outline of the geographical sections in which calculous diseases are found to abound, with a summary of their probable causes, will complete the paper.

SECTION IV. DERMATOLOGY AND SYPHILOLOGY.

FIRST QUESTION.—Variations in Type and in Prevalence of Diseases of the Skin in Different Countries of Equal Civilization. Reporter, James C. White, M.D., Professor of Dermatology in Harvard University.

SECOND QUESTION.—Are Eczema and Psoriasis Local Diseases, or are they Manifestations of Constitutional Disorders? Reporter, Lucius Duncan Bulkley, M.D., of New York.

I. Nature of the eruption in constitutional disorders affecting the skin, as in the contagious fevers, syphilis, etc.

II. Nature of local diseases.

III. Microscopic anatomy of eczema and psoriasis.

IV. Clinical history of eczema and psoriasis: *a*, age; *b*, sex; *c*, location; *d*, relapses; *e*, hereditary transmission; *f*, gouty and rheumatic symptoms; *g*, urinary disturbances; *h*, bronchitis, etc.

V. Clinical history of local diseases, epithelioma, verruca, parasitic and mechanical diseases of the skin, etc.

VI. Effect of local treatment.

VII. Effect of constitutional treatment.

THIRD QUESTION.—The Virus of Venereal Sores; its Unity or Duality. Reporter, Freeman J. Bumstead, M.D., late Professor of Venereal Diseases at the College of Physicians and Surgeons, New York.

Three views as to the origin of Venereal Sores have been entertained:—

1*st*. All Venereal Sores are due to a single, specific virus, the virus of syphilis.

2*d*. Some Venereal Sores are due to the syphilitic virus, and others to a distinct virus, known as the *chancroidal*.

3*d*. Some Venereal Sores are due to the syphilitic virus, and others to the inoculation of the products of simple inflammation, in which latter case no specific virus exists.

The evidence for and against each of these suppositions, drawn from clinical experience and artificial inoculation.

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FOURTH QUESTION.—The Treatment of Syphilis with Special Reference to the Constitutional Remedies appropriate to its various Stages; the Duration of their Use, and the Question of their Continuous or Intermittent Employment. Reporter, E. L. Keyes, M.D., Adjunct Professor of Surgery and Professor of Dermatology in Bellevue Hospital Medical College, New York.

I. Does a mild beginning in syphilis necessarily indicate that the malady will run a mild course so that the duration of treatment may be regulated thereby?

II. Is the internal use of mercury debilitating?

III. When is mercury useful in syphilis? Has it any control over the late symptoms?

IV. When is iodine useful in syphilis? Can it replace mercury in any stage of the disease?

V. Does iodine act by liberating mercury lying latent in the tissues?

VI. Should treatment be continuous or interrupted?

VII. General outline of a course of internal treatment.

VIII. Conclusions, negative and positive.

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SECTION V. OBSTETRICS.

FIRST QUESTION.—The Causes and the Treatment of Non-Puerperal Hemorrhages of the Womb. Reporter, William H. Byford, M.D., Professor of Obstetrics and Diseases of Women and Children in the Chicago Medical College.

I. A sequential classification approached by showing

(*a*) That the uterus is prone to hemorrhage, because of the conditions connected with menstruation.

(*b*) That the causes of metrorrhagia act by aggravating these conditions.

(*c*) That these causes sometimes have their origin in the nervous system and sometimes in the vascular.

(*d*) That of the latter causes some operate by increasing the flow of blood through the uterine vessels, while others effect the same results by retarding the current of blood in them.

II. The treatment consists

(*a*) In removing the causes, and

(*b*) In surgical, mechanical, and medicinal means to check the flow in great emergencies.

SECOND QUESTION.—The Mechanism of Natural and of Artificial Labor in Narrow Pelves. Reporter, William Goodell, A.M., M.D., Clinical Professor of Diseases of Women and of Children in the University of Pennsylvania.

After defining a narrow pelvis, and describing the more common kinds of pelvic deformity, the following topics, regarding alone the mechanism of labor, will be introduced for discussion :—

I. How does the head enter and pass the brim in the flat pelvis; and how in the generally contracted pelvis? The commonly accepted doctrine of the initial flexion of the head will here be contested.

II. How does the after-coming head behave in the flat pelvis; and how in the generally contracted pelvis?

III. What effect has instrumental interference on the mechanism of labor in such pelves?

IV. Has turning any mechanical advantages over the use of the forceps?

V. General conclusions deduced from a consideration of the above questions.

THIRD QUESTION.—The Treatment of Fibroid Tumours of the Uterus. Reporter, Washington L. Atlee, M.D., of Philadelphia.

The subject will be treated mainly from the standpoint of personal experience.

Two principal divisions of the subject are:—

I. Tumors usually accompanied with hemorrhage, embracing (*a*), fibroids occupying the vaginal canal; (*b*), fibroids within the cavity of the uterus; (*c*), interstitial submucous fibroids; (*d*), interstitial fibroids proper; (*e*), recurrent fibroids.

II. Tumors usually not accompanied with hemorrhage, including (*a*), interstitial subperitoneal fibroids; (*b*), sessile peritoneal fibroids; (*c*), pedunculated peritoneal fibroid; (*d*), interstitial cervical fibroid; (*e*), myomatous degeneration of the uterus; (*f*), fibro-cysts of the uterus.

The best mode of treatment both surgical and medicinal—the removal of tumors *per vias naturales*—and by abdominal section—the propriety of extirpating a fibroid uterus by either of these methods—a consideration of the several agents which are supposed to control the growth of fibroid tumors.

FOURTH QUESTION.—The Nature, Causes, and Prevention of Puerperal Fever. Reporter, William T. Lusk, M.D., Professor of Obstetrics and Diseases of Women and Children in Bellevue Hospital Medical College, New York.

Puerperal fever a generic term.

Varieties.—Distinction between non-infectious and infectious forms.

(*a*) The non-infectious form the result of—
    Traumatic injuries.
    Old peritoneal adhesions.
    Disregard of hygienic precautions.
    Mental influences.
(*b*) The infectious form a septic disease—
    Local lesions the usual though not the necessary point through which the poison enters the system.
    Relations of bacteria to puerperal fever.
    The influence of erysipelas, scarlatina, diphtheria, etc., upon the puerperal state.
    Atmospheric influences.

Causes.—Deductions drawn from—
Civil Statistics.
Hospital Statistics.
Private Practice.
Prevention.—Rules based upon our knowledge of causes.
Practical Results.

SECTION VI. OPHTHALMOLOGY.

FIRST QUESTION.—The Comparative Value of Caustics and Astringents in the Treatment of Diseases of the Conjunctiva, and the best mode of applying them. Reporter, Henry W. Williams, M.D., Professor of Ophthalmology in Harvard University.

I. Affections of the conjunctiva in which neither caustics nor astringents are indicated;

II. The various forms of conjunctivitis, and the extent in which caustics or astringents may be usefully applied;

III. The modes of applying these remedies to best advantage;

IV. Complications—in which the conjunctivitis is the result of other morbid processes—or in which the existing morbid conditions are the consequence of previous conjunctivitis, with the treatment of such complications.

SECOND QUESTION.—Tumors of the Optic Nerve. Reporter, Hermann Knapp, M.D., of New York.

THIRD QUESTION.—Orbital Aneurismal Disease and Pulsating Exophthalmia; their Diagnosis and Treatment. Reporter, E. Williams, M.D., Professor of Ophthalmology in Miami Medical College of Cincinnati, Ohio.

FOURTH QUESTION.—Are Progressive Myopia and Posterior Staphyloma due to Hereditary Predisposition, or can they be induced by Defects of Refraction, acting through the Influence of the Ciliary Muscle? Reporter, E. G. Loring, M.D., of New York.

I. The hereditary predisposition of myopia.

(*a*) How far the law of direct transmission is influenced by the secondary law of heredity, which expresses itself in the tendency to revert to the normal standard.

(*b*) How far this tendency is influenced by intermarriage of different races, change of occupation, food, and manner of living.

These topics will be illustrated by a brief comparison of the statistics of foreign countries with those taken in America.

II. The development of the normal eye, and its relation to the conus and posterior staphyloma.

(*a*) Is the conus an anatomical and congenital defect inherent in myopic eyes, and such that become myopic through hereditary tendency? or

(*b*) Is it simply the expression of a distension of the investing membranes which may occur in any eye from various causes?

III. The action of the ciliary muscle as a cause of myopia.

(*a*) The anatomy of the part and its relation to myopia.

(*b*) Can the continued contraction of the ciliary muscle produce myopia, either primarily through a permanent increased curvature of the lens, or secondarily through tension and irritation of the deeper seated membranes?

(*c*) A short consideration of the statistics published by various authorities in regard to spasm of the muscle.

(*d*) An inquiry whether negative accommodation, even in connection with faulty refraction, can ever produce myopia and posterior staphyloma.

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SECTION VII. OTOLOGY.

FIRST QUESTION.—Importance of Treatment of Aural Diseases in their Early Stages, especially when arising from the Exanthemata. Reporter, Albert H. Buck, M.D., of New York.

I. Remarks will be based exclusively on affections of the middle ear associated with the formation of pus.

II. Chronic purulent inflammation of the middle ear is a common affection among the individuals of a community.

III. The serious nature of this form of disease, oftentimes impairing the hearing very markedly, and occasionally terminating in death.

IV. The anatomical relations of the middle ear afford an explanation of the serious results that may follow an acute inflammation of these parts.

V. The impotent nature of the means commonly employed for the relief of such an inflammation.

VI. The great value of paracentesis of the membrana tympani as a preventive of chronic purulent inflammation of the middle ear, and all its serious consequences.

VII. The general practitioner urged to acquaint himself with the use of the speculum and mirror, as means of ascertaining accurately the condition of the ear.

SECOND QUESTION.—What is the Best Means of Testing the Hearing? By CHARLES H. BURNETT, A.M., M.D., Aural Surgeon to the Presbyterian Hospital in Philadelphia.

I. Consideration of the character of the three principal tests (the watch, the tuning-fork, and speech) in use among aurists. The manner in which these tests are heard by the normal ear, and wherein the diseased ear fails to hear them.

(*a*) The *watch*, once classed among unmusical sounds or noises; lately classed among musical tones. Its value, applicability, etc.

In using the watch as a test it is important to bear in mind the intensity as well as the position of its note in the musical scale. Its limited applicability; The stop-watch most useful; conclusions respecting the watch as a test for hearing.

(*b*) The *tuning-fork*. Its note heard by the normal ear better through the air than through the bones of the head. When conveyed to the ear through the air the tones of the tuning-fork are tests of the capability of the sound-conducting, as well as for the sound-perceiving apparatus. The notes of the tuning-fork may be conveyed through the bones of the head; *bone conduction*. Phenomena consequent upon placing a vibrating tuning-fork on the parietal protuberances of one having normal hearing—Blake's Kœnig's Rods. Aerial and bone conduction of the vibrations of a tuning fork in diseases of the ear. The tuning-fork used chiefly in the latter way.

Conclusions respecting the tuning-fork as a test.

(*c*) *Speech;* what it consists of acoustically. Its great range in comparison to either of the other tests mentioned. The vowels the most powerful and musical of all its notes. Their classification. The consonants also admitted to the rank of periodic, and hence musical sounds. Whisper and louder speech as tests. The failure on the part of the diseased ear to hear all or part of these tests of speech.

II. Deficiencies and discrepancies in the hearing power of the diseased ear. In some cases the power to hear certain sounds in the musical scale drops out, while the power to hear others remains comparatively good.

Can disease be diagnosed by the manner in which an ear hears certain tests? If so, what will give most aid in such a search? Most probably the voice.

III. *Manner of Testing.*—(*a*) The importance of isolation of the better ear, during the test, in one-sided deafness. In any case, important to know how much is heard through the air, and how much is conveyed through the bones of the head. Want of precision in this has led to great errors in diagnosis and prognosis, in cases in which the nerve is good, but in which the sound-conducting apparatus, chiefly the middle ear, has been greatly diseased.

(*b*) Consideration of what is needed for any form of test. An arbitrary sound unit may be established. Its usefulness and its objections. An apparatus might be made to give out a set of notes of fixed value. The usefulness of such an apparatus as well as its disadvantages. How well the demands of any test are met by watch, tuning-fork, and *human voice*. Conclusions favourable to the latter drawn from preceding remarks.

THIRD QUESTION.—In what Percentage of Cases do Artificial Drum-Membranes prove of Practical Advantage? Reporter, H. N. Spencer, M.D., of St. Louis.

I. After reviewing the history of the artificial drum-membrane, there are considered (*a*) the condition of the ear admitting of its use, (*b*) contra-indicating conditions.

II. The forms of artificial drum-membranes (under which head a preference will be stated for Yearsley's cotton-wool).

III. The offices performed functional and therapeutical.

IV. When the conditions are the most favorable it will be claimed that the cases are the fewest in number where the artificial drum-membrane will be worn, whether the reasons be objective or subjective.

FOURTH QUESTION.—What is the best Mode of Determining the Hearing of School Children, and how should Partially Deaf Children be instructed—in Mixed Classes with those who hear well, or in Separate Classes where due allowance will be made for their defective hearing? Reporter, Clarence J. Blake, M.D., Instructor in Otology in Harvard University.

I. The methods of testing the hearing, preference being given to (*a*) test with the human voice as proposed by Oskar Wolf, for classes of consonant sounds at varying distances; (*b*) tests with the watch and musical tones. In cases of defective hearing detected in school children, an examination of the condition of the ear will be advised with reference to progress in defect of hearing and classification accordingly.

II. Classification according to degree of defect in hearing, in accordance with which it will be advisable either to place the child in an ordinary school or in a special class. This heading will necessarily include a consideration of the diseases which most commonly cause deafness in children.

III. Consideration of that class requiring special instruction, for which preference will be given to the system of visible speech or lip reading in contrast to the sign language.

Under the first heading will be given a form for tabulation of examination of the ears in school children.

Under the second heading will be considered the facilities at present afforded in common schools for the instruction of partially deaf children.

Under the third heading an illustration of the method of instruction by visible speech.

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SECTION VIII. SANITARY SCIENCE.

FIRST QUESTION.—Disposal and Utilization of Sewage and Refuse. Reporter, John H. Rauch, M.D., late Sanitary Superintendent of Chicago, Ill.

SECOND QUESTION.—Hospital Construction and Ventilation. Reporter, Stephen Smith, M.D., Professor of Orthopædic Surgery in the University of the City of New York.

THIRD QUESTION.—The General Subject of Quarantine, with Particular Reference to Cholera and Yellow Fever. Reporter, John M. Woodworth, M.D., Supervising Surgeon-General United States Marine Hospital Service.

After reviewing briefly the practice of quarantine in the past, and as at present administered, the mode of propagation of cholera and yellow fever will be discussed with the view of arriving, as near as possible, at what precautions are necessary and what restrictions superfluous in the administration of quarantine, which will lead to the principal question—the practice and methods which should be pursued to secure the greatest protection to the public health against cholera and yellow fever with the least restriction upon commerce:—

(*a*) In this connection will be considered the want of prompt information to threatened ports of the shipment of passengers or goods from infected districts;
(*b*) The question of time as an element in quarantine;
(*c*) The value and practice of disinfection;
(*d*) The importance of municipal sanitary coöperation; and
(*e*) What may be gained by imparting to masters of vessels correct views of sanitary measures to be enforced by them in outbreaks of cholera or yellow fever on shipboard, etc.

FOURTH QUESTION.—The Present Condition of the Evidence concerning "Disease-germs." Reporter, Thomas E. Satterthwaite, M.D., of New York.

The (1) Vegetable Germ Theory in contradistinction from other prominent theories, especially (2) the Bioplasm Theory, and (3) the Physico-Chemical Theory.

Especial attention will be directed towards the following general topics: (*a*) The agency of minute organized particles of a vegetable nature in the production of fermentation and putrefaction; (*b*) the epidemic diseases of certain plants and animals in their relation to minute vegetable organisms; (*c*) rapid multiplication of bacteria *pari passu* with the rapid spread of disease manifestations throughout the system; (*d*) the constant ratio between the most active changes in the so-called septic diseases, such as pyæmia, erysipelas, and puerperal fever, with the numerical increase in bacteria at the points involved; (*e*) can any strictly chemical substance be a fever producer? (*f*) bacteria and disease poisons: their capacity for successfully maintaining active properties; (*g*) inoculation of bacteria in healthy tissues.

The following special topics will then be considered:—

I. Bacteria: (*a*) their classification; (*b*) diagnosis; (*c*) appearances under varying conditions.

II. The poisonous fluids of infective diseases, as regards their physical properties and the solid particles contained in them.

III. The value of vacuum tube experiments.

IV. How far are either the Bioplasm or the Physico-Chemical Theories competent to explain the spread of infective diseases?

V. The poisons of special diseases, such as cholera, smallpox, the carbuncular diseases of men and animals, typhus and relapsing fevers and diphtheria, in their relations to minute organisms.

SECTION IX. MENTAL DISEASES.

FIRST QUESTION.—The Microscopical Study of the Brain. Reporter, Walter H. Kempster, M.D., Physician and Superintendent of Northern Hospital for Insane, Oshkosh, Wisconsin.

A brief statement will be made outlining the progress made by recent investigators in studying the pathological histology of the brain in insanity, and the following subjects will be introduced.

(*a*) The importance of microscopic observations of the several cerebral membranes, to determine their pathological condition, and the relations that the various pathological states hold to the forms of mental aberration.

(*b*) The abnormalities in arterioles and capillaries, including the various deposits on the walls of the vessels; engorgement and its consequences; the several changes observed in the coats of the vessels; occlusion from minute thrombi; and embolism; alterations in the course of the vessels, and the effect these conditions have upon the surrounding brain tissue.

(*c*) Miliary aneurisms and miliary hemorrhages; the effect they have in the production of brain disease.

(*d*) The peri-vascular sheath, and peri-vascular canal, as they are found in cases of insanity, will be considered in their relations to adjacent brain tissue.

(*e*) The various alterations of structure and form noted in nerve cells and nerve fibres, in the several forms of insanity.

(*f*) The abnormalities in the neuroglia, and the conditions called "miliary sclerosis," and "colloid degenerations," will be described, and the influence each condition has in impairing normal cerebral action will be discussed.

(*g*) The various pathological conditions found in the microscopic examination of the brain in a number of cases of insanity, will be illustrated by means of photo-micrographs, made from fresh and prepared specimens. The pathological states observed will be considered with reference to the mental symptoms noticed during the course of the various forms of insanity.

SECOND QUESTION.—Responsibility of the Insane for Criminal Acts. Reporter, Isaac Ray, M.D., of Philadelphia.

Still great differences of opinion among physicians, lawyers, and men of the world, on the question how far insanity shall be admitted as an excuse for crime. Lord Hale's doctrine that partial insanity—that in which the patient is reasonable and correct on many subjects—does not necessarily exempt one from the penal consequences of crime, still shapes the decisions of English and American courts. Tests for determining what kind of partial insanity does and what does not excuse for crime are diverse, unsatisfactory, and none supported by correct scientific knowledge of insanity. Delusion has been decided to be a sufficient excuse only when the criminal act committed under its influence would have been legally justified had the delusion been true. Notwithstanding many of the insane think and act correctly to some extent, yet it is impossible to say with any near approach to certainty in any given case where sanity ends and insanity begins.

Two mistakes are made by lawyers in estimating the responsibility of the insane, viz., they define the scope of the influence of the mental disorder in an arbitrary manner, unsupported by the facts of psychological science, and they regard the affective faculties as without any part in the play of disease. The latter mistake pervades the theories of the law and the judgments of those who pretend to no law. The moral like the intellectual faculties are dependent for their exercise on the brain—the larger part of the brain, probably, being devoted to this purpose. Consequently, disease of the brain must necessarily affect the manifestations of these faculties. Whether the one or the other class, or both, is affected will depend on the part of the brain diseased. Sanity supposes the integrity of all the faculties, moral as well as intellectual. If this integrity is destroyed, insanity is the result wherever the lesion may be. Whatever faculties may be affected or not affected, apparently, responsibility is presumably impaired. It is for the party alleging the contrary to prove it. Punishment of persons admitted to be insane, for criminal acts, has been advocated for the sake of the example. No good effect can be shown by a single case in point. Patients in our hospitals are never punished; they may be deprived of a favor or privilege which they have shown themselves incapable of using properly.

Wrong as our present mode of procedure is, no change for the better seems very practicable, unless it may be that which takes the question of insanity entirely from the court and gives it to the jury as one exclusively of fact.

THIRD QUESTION.—Simulation of Insanity by the Insane. Reporter, C. H. Hughes, M.D., of St. Louis, Mo.

The feigning of insanity by the sane has been long recognized as a practical fact. The possibility of similar efforts on the part of men really insane has been ignored or forgotten. The fact that the proof of simulation possesses no real practical value, in the case of a person already adjudged to be insane, is, probably, one cause of the rareness of recorded cases.

Advanced general dementia is incompatible with simulation. Acute and general mania is also incapable of coexistence with feigning. In recovery from the latter condition, circumstances might easily give rise to simulation of a state recently passed through. Experience and observation might certainly help to an excellent imitation of a state so lately endured.

Simulation requires and implies some degree of rationality, and usually some motive. This is by no means incompatible with insanity. In the remissions of periodic mania, in certain cases of chronic general mania and certain forms of hysterical mania, and especially in affective or moral insanity without distinct intellectual impairment, simulation is perfectly possible and practicable. The existence of susceptibility to ordinary motives is recognized in the management of every insane asylum.

Striking instances of success in the simulated abandonment of delusions, so common in alienistic literature, suggest an equal facility at invention or pretence.

The criminal classes of our great cities are born and trained to deception. Simulation might very naturally be added to constitutional infirmity. Such cases probably occur oftener than is supposed. Many famous and historic cases might be most correctly characterized as compounds of simulation with actual disease.

Rarely does insanity affect all the faculties alike. Among the rational acts done by the insane man simulation may happen to occur. Especially probable is it that a man recovering from mania might imitate the crazy acts recently prompted by disease if adequate motive existed.

Simulation is peculiarly practicable in those forms of insanity which involve the affective faculties, leaving the intellect comparatively untouched.

The question of responsibility in cases where simulation is mingled with actual disease is a very difficult one. The ancient legal test, "knowledge of right and wrong," is here wholly inadequate.

The motive for simulation in the insane of hysterical tendencies is often the craving for sympathy and attention. Occasionally, however, it seems to be wholly motiveless—a mere freak of disease.

We should beware of inferring because of detected simulation, the non-existence of disease.

FOURTH QUESTION.—The Best Provision for the Chronic Insane. Reporter, C. H. Nichols, M.D., Physician and Superintendent of the Government Hospital for the Insane, Washington, D. C.